

Appl. No.: 09/896,887
Amdt. Dated January 14, 2005
Response to Office Action of October 15, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A system allowing for centralized, network application performance management services, comprising:

a ~~first~~ wide area network maintained by a network service provider,

a customer site comprising a ~~second~~ first network,

an access link between the ~~first~~ wide area network and the ~~second~~ first network of the customer site,

a managed network operations center operably connected to the ~~first~~ wide area network, the managed network operations center operative to monitor the wide area network ~~monitoring the access link between the first network and the second network of the customer site~~,

and, a bandwidth management device, residing at the customer site, and operably connected to the access link;

wherein the bandwidth management device is operable to monitor network traffic ~~on~~ traversing the access link in relation to bandwidth utilization and application performance and transmit data related to the network traffic to the managed network operations center;

wherein the bandwidth management device is operable to control the outbound and inbound flow of network traffic across the access link ~~control network traffic~~ based on a set of bandwidth management policies; and,

wherein the managed network operations center is operable to apply to the bandwidth management device a set of bandwidth management policies based on application performance priorities received from ~~an enterprise customer associated with~~ the customer site.

2. (original) The system of claim 1 wherein the managed network operations center is operable to manage a plurality of bandwidth management devices across a plurality of enterprise customers, wherein each enterprise customer has associated therewith at least one of the plurality of bandwidth management devices.

Appl. No.: 09/896,887
Amdt. Dated January 14, 2005
Response to Office Action of October 15, 2004

3. (currently amended) The system of claim 1 wherein the managed network operations center comprises

a device manager server operably connected to the ~~first~~ wide area network to receive data from the bandwidth management device; and

a network traffic database storing network traffic data corresponding to a plurality of bandwidth management devices across a plurality of business enterprises;

wherein the device manager server is operable to store the data received from the bandwidth management device in the network traffic database.

4. (original) The system of claim 1 wherein the managed network operations center further comprises

a data analysis server operable to analyze the network traffic stored in the network traffic database.

5. (original) The system of claim 1 wherein the managed network operations center includes functionality allowing for the generation of reports related to application performance and network traffic across the access link.

6. (original) The system of claim 5 wherein the data analysis server is operable to generate the reports related to the application performance and network traffic across the access link.

7. (currently amended) The system of claim 1 further comprising a routing device at the customer site between the ~~second~~ first network and the access link, the routing device operable to route data between the ~~first~~ wide area network and the ~~second~~ first network.

8. (original) The system of claim 7 wherein the bandwidth management device is located between the routing device and the access link.

9. (original) The system of claim 7 wherein the bandwidth management device is located within

Appl. No.: 09/896,887
Amdt. Dated January 14, 2005
Response to Office Action of October 15, 2004

the routing device.

10. (currently amended) The system of claim 1 wherein the bandwidth management device is located between the access link and the ~~first~~ wide area network.

11. (currently amended) The system of claim 7 wherein the bandwidth management device is located between the access link and the ~~first~~ service provider network.

12. (original) The system of claim 1 wherein the managed network operations center is operable to alter the set of bandwidth management policies implemented by the bandwidth management device.

13. (currently amended) The system of claim 1 ~~wherein the first network is a wide area computer network wherein the bandwidth management device comprises a customer portal facilitating configuration of the set of bandwidth management policies, and wherein the managed network operations center comprises a device manager server operative to receive configuration requests from the customer site and configure the set of bandwidth management policies on the bandwidth management device via the customer portal.~~

14. (currently amended) The system of claim 1 wherein the ~~second~~ first network ~~is~~ comprises a local area network.

15. (currently amended) The system of claim ~~13~~ 1 ~~wherein the bandwidth management device further includes customer portal functionality facilitating interaction between the customer site and the managed network operations center and wherein the managed network operations center is operative to maintain a division between the bandwidth management policies configurable by the customer site and the bandwidth management policies configurable by the network service provider.~~

Appl. No.: 09/896,887
Amdt. Dated January 14, 2005
Response to Office Action of October 15, 2004

16. (currently amended) A system allowing for centralized, network application performance management services deployed over a computer service provider network to a customer site, comprising:

an access link between the computer service provider network and the customer site,
a managed network operations center operably connected to and monitoring the service provider network access link, and
a bandwidth management device, residing at the customer site, and operably connected to the access link;

wherein the bandwidth management device is operable to monitor network traffic ~~on~~ traversing the access link in relation to bandwidth utilization and application performance and transmit data related to the network traffic to the managed network operations center;

~~wherein the bandwidth management device is operable to control network traffic based on a set of bandwidth management policies; and,~~

wherein the managed network operations center is operable to receive application performance priorities from the customer site and apply a set of bandwidth management policies based on the priorities to the bandwidth management device; and

wherein the bandwidth management device is operable to control the outbound and inbound flow of network traffic across the access link based on the set of bandwidth management policies.

17. (currently amended) A method allowing for centralized application performance management services at a managed network operations center to ~~at least one~~ a customer site associated with an ~~enterprise customer~~, wherein the customer site is operably connected to a ~~first~~ service provider network via an access link, the method comprising the steps of:

deploying a bandwidth management device at the customer site on the access link; wherein the bandwidth management device is operable to transmit data to and receive data from the managed network operations center, and wherein the bandwidth management device is operable to control the inbound and outbound flow of network traffic across the access link based on a set of bandwidth management policies;

Appl. No.: 09/896,887
Amdt. Dated January 14, 2005
Response to Office Action of October 15, 2004

profiling with the bandwidth management device(s) the network traffic across the access link to identify bandwidth consumption of network applications;

receiving from the ~~enterprise~~ customer site a prioritization of applications based on the profiled network traffic;

applying, to the bandwidth management device, a set of bandwidth management policies for controlling network traffic traversing the access link based on the prioritization received from the ~~enterprise~~ customer site; and

monitoring, at a managed network operations center, application performance to assess compliance with the prioritization received from the ~~enterprise~~ customer site.

18. (original) The method of claim 17 further comprising the step of

providing a report detailing application performance and bandwidth utilization levels across the access link.

19. (currently amended) The method of claim ~~17~~ 18 wherein the providing step comprises providing on-line access to the report.

20. (original) The method of claim 17 wherein the bandwidth management device transmits data relating to the profiled network traffic to the managed network operations center.

21. (original) The method of claim 17 wherein the monitoring step comprises the steps of
profiling, with the bandwidth management device, the network traffic across the access link to identify bandwidth consumption of business applications and other applications; and
receiving from the bandwidth management device data relating to the profiled network traffic.

22. (original) The method of claim 17 wherein step of applying comprises transmitting the set of bandwidth management policies to the bandwidth management device on the access link.

Appl. No.: 09/896,887

Amdt. Dated January 14, 2005

Response to Office Action of October 15, 2004

23. (currently amended) A method enabling centralized application performance management services, wherein the services are provided by a managed network operations center operably connected to a ~~first~~ service provider network, and wherein the services are provided to at least one customer site connected to the ~~first~~ service provider network via a transmission link, the transmission link including a bandwidth management device residing at the customer site, and operable to monitor network traffic in relation to bandwidth utilization and application performance and transmit data related to the network traffic to the managed network operations center; wherein the bandwidth management device is operable to control outbound and inbound network traffic across the transmission link based on a set of bandwidth management policies, the method comprising the steps of:

receiving, at the managed network operations center, a request to change a bandwidth management policy ~~for a~~ from the customer site;

applying a new set of bandwidth management policies to the bandwidth management device based on the requested change.

24. (currently amended) The method of claim 23 further comprising the step of

authenticating ~~the~~ a user associated with the customer site, before applying the new set of bandwidth management policies.

25. (currently amended) The method of claim 23 wherein the applying step comprises the steps of

formulating a new set of bandwidth management policies based on the desired change received from ~~the~~ a user associated with the customer site; and,

transmitting the new set of bandwidth management policies to the bandwidth management device.

26. (canceled)

27. (currently amended) An apparatus enabling the provision of centralized application performance management services to a plurality of enterprises, comprising

Appl. No.: 09/896,887

Amdt. Dated January 14, 2005

Response to Office Action of October 15, 2004

a plurality of bandwidth management devices each corresponding to a respective customer site;

a device manager server operably connected to the bandwidth management devices;

wherein the bandwidth management devices are each deployed at respective ones of the customer sites, and are operable to monitor network traffic on respective access links between the customer sites and a ~~wide-area~~ service provider network in relation to bandwidth utilization and application performance and transmit data related to the network traffic to the device manager server;

wherein the bandwidth management devices are further operable to control outbound and inbound network traffic across the access links based on bandwidth management policies; and,

wherein the device manager server is operable to receive application performance priorities for access links corresponding to customer sites and apply a set of bandwidth management policies implementing the priorities to corresponding bandwidth management devices.

28. (original) The apparatus of claim 27 further comprising a network traffic database storing network traffic data corresponding to a plurality of bandwidth management devices; and

wherein the device manager server is operable to store in the network traffic database network traffic data received from the bandwidth management devices in association with the corresponding customer sites.

29. (original) The apparatus of claim 28 further comprising a data analysis server operably connected to the network traffic database;

wherein the data analysis server is operable to analyze the network traffic data corresponding to a particular access link and to generate a report characterizing application performance and bandwidth utilization across the access link.

30. (currently amended) A system allowing for centralized, network application performance

Appl. No.: 09/896,887
Amdt. Dated January 14, 2005
Response to Office Action of October 15, 2004

management services, comprising:

a ~~first~~ service provider network,

~~at least one~~ a customer site associated with an enterprise customer, the customer site comprising a second network and a routing device,

an access link between the ~~first~~ service provider network and the routing device of the customer site,

wherein the routing device is operably connected to the second computer network to route data between the ~~first~~ service provider network and the second network,

a managed network operations center operably connected to the ~~first~~ service provider network, the managed network operations center monitoring the access link between the ~~first~~ service provider network and the second network of the customer site,

and, a bandwidth management device, residing at the customer site between the second network and the routing device, and operably connected to the access link;

wherein the bandwidth management device is operable to monitor network traffic on the access link in relation to bandwidth utilization and application performance and transmit data related to the network traffic to the managed network operations center;

wherein the bandwidth management device is operable to control outbound and inbound network traffic traversing the access link based on a set of bandwidth management policies; and,

wherein the managed network operations center is operable to apply to the bandwidth management device a set of bandwidth management policies based on application performance priorities received from ~~an enterprise customer associated with~~ the customer site; and

wherein the managed network operations center is operable to manage a plurality of bandwidth management devices across a plurality of enterprise customers, wherein each enterprise customer has associated therewith at least one of the plurality of bandwidth management devices.

31. (new) The apparatus of claim 27 wherein the device manager server further comprises an interface allowing users associated with the customer sites to configure their corresponding bandwidth management devices.